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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,258	05/29/2001	Daniel A. Copeland	U6220/55668/NWJ	5511

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EXAMINER

ELVE, MARIA ALEXANDRA

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 04/08/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/866,258

Applicant(s)
Copeland et al.

Examiner
M. Alexandra Elve

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 4, 7, 10, 13 & 18-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by tension anomalies. For example are tension anomalies the statistical differences in stress-strain mechanical data curves or are they dislocation loops, or dislocation jogs or pileups or are they welding cracks? Clarification is required, because this term is not defined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-25 & 41-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Badia (US Pat. 4,624,706).

Badia discloses a weld wire which is made from nickel. Pure nickel is used in the construction of the weld wire. This wire is used in the welding of gray cast iron and ductile irons.

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It was noted that on an unrestrained fillet weld on ductile iron that no cracks were observed. Multiple pass welding was conducted. Tensile tests on the resulting butt welds revealed yield strengths which ranged from 20 to 39.8 psi, with the majority of the results being under 35 psi (abstract, col. 1, lines 58-60, col. 4, lines 59-66, col. 5, lines 4-30, col. 8, lines 55-68).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 26-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Badia, as stated in paragraph 3, above and further in view of Rogers et al. (US Pat. 3,328,557) or Wasserman et al. (US Pat. 3,253,950).

Badia does not teach the use of an inert gas for welding or use of spray transfer or various types of welding apparatuses.

Rogers et al. discloses the user of an inert gas atmosphere for welding using nickel electrodes. It would have been obvious to one of ordinary skill in the art at the time of the invention to use an inert atmosphere, as taught by Rogers et al., in the Badia system because it negates the formation of welding cracks.

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Wasserman et al. discloses the use of fine spray type transfer of weld metal to the welding of cast irons and steels. It would have been obvious to one of ordinary skill in the art at the time of the invention to use spray transfer as taught by Wasserman et al., in the Badia system because of the stresses caused in the formation of the HAZ area.

The different types of welding apparatus are functional equivalents and hence obvious.

Response to Amendment

6. Upon carefully reviewing Applicant's arguments filed February 12, 2003 the Examiner acknowledges the amendments to claims 22, 40-41 and the cancellation of claim 43. The 112 first paragraph rejections are withdrawn in view of applicant's amendments. The 102(b) rejections over Dixon et al. are withdrawn in view of applicant's arguments.

7. Applicant's arguments filed February 12, 2003 (paper # 6) have been fully considered but they are not persuasive.

Applicant argues that tension anomalies are described in the specification. Applicant states that tension anomalies are porosity, pitting and so forth. Although applicant may include definitions, these must be within the boundaries of technical language. The examiner respectfully disagrees with applicant's definitions. It is well known in the metallurgical arts that porosity,

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pitting and so forth are microstructural anomalies and not tension anomalies. Tension anomalies are mechanical in nature, for example, dislocation loops, stress concentrations and so forth.

Applicant argues that Badia does not teach pure nickel. The examiner respectfully disagrees because Badia teaches nickel with the inevitable impurities (table I). Additionally, for the purposes of this specification the expression "nickel containing" means any element or alloy system that ranges (in wt%) from about 28% to 100% nickel (col. 2, lines 13-16). Further instant claims are directed to 90% nickel.

Applicant argues that Badia does not reference ductility with respect to the HAZ. The examiner respectfully disagrees because the prior art notes that joints are hard and unmachinable and a special composition improves the weld.

Applicant argues that the prior art lacks motivation to combine. The examiner respectfully disagrees because all prior art references are directed to nickel welding and electrodes.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO


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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is (703) 308-0092. The examiner can normally be reached Monday to Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn, can be reached on (703) 308-3318.

Any inquiry of general nature to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0661.


M. ALEXANDRA ELVE
PRIMARY EXAMINER

April 6, 2003.